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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,192	06/20/2003	Onno Mark Becker Hof	4906P140	8795
8791	7590	02/28/2008		
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 1279 OAKMEAD PARKWAY SUNNYVALE, CA 94085-4040			EXAMINER HYUN, SOON D	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 02/28/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/600,192	<b>Applicant(s)</b> BECKER HOF ET AL.	
	<b>Examiner</b> SOON-DONG D. HYUN	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 22-25 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-21, 26-29 and 31-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/7/2007 has been entered.

### ***Claim Objections***

2. Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3, 5-21, 26-29 and 31-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki et al (U.S. Patent No. 7,137,932) in view of Skemer (US PG Pub 2001/0044893)

Regarding claims 1 and 8, Miki et al discloses a method in a network element comprising:

An access node (AN 11 in FIG. 1) receives a plurality of data packets through a plurality of input processing units (13 in FIG. 2) for session processing in compliance with PPP (col. 6, lines 37-39).

However, Miki does not explicitly teach that the data packets are in a specific format of PPPoX.

Skemer discloses a plurality of PPPoX comprising PPPoE, PPPoF and PPPoA. Those of skill in the art would have been motivated by Skemer to incorporate the interfaces (13) of Miki to receive data packets of PPPoE, PPPoF and PPPoA, i.e., PPP protocol data units encapsulated according to different protocols as recited in claims, thus, the access node could accommodate a plurality of PPPoX protocols.

Therefore it would have been obvious to one having ordinary skill in the art for the input processing units to receive PPP protocol data units encapsulated according to different protocols.

Miki further teaches that the data packets in compliance with PPP are converted into respective PPP protocols to across a core network (CN1 in FIG. 1) by a plurality of output processing units (14 in FIG. 2), see col. 6, lines 43-48.

However, Miki does not explicitly teach that PPP protocol data units encapsulated according to different protocols are converted into a uniform PPPoE. Those of skill in the art would have appreciated that data packets of PPPoX as discussed above should be converted into data packets of PPPoE, if the core network is Ethernet.

Therefore, it would have been obvious to one having ordinary skill in the art to convert the data packet of PPPoX into data packets of PPPoE to transmit the data packet of PPPoX to match the protocol of the Ethernet.

Regarding claims 2, 40, 41, and 43, Miki et al (Miki) discloses a method in a network element (access node AN 11 in FIG. 1) comprising:

Refer to the discussion for claim1.

Miki further discloses a session identifier of PPPoE (111 in FIG. 3) to track PDUs of PPPoX (a first flow of PPP protocol data units) and converts each PDU of PPPoX into PPPoE PDUs (by output processing unit 14 in FIG. 1) to transmit the data packets of PPPoE via Ethernet; and

Regarding claim 3, refer to the discussion for claim 2.

The first port is an input interface (30 in FIG. 2) and the second port is an output interface (50 in FIG. 2).

Regarding claim 5, refer to the discussion for claims 1-3. Miki further discloses that the Ethernet output interface unit (50) multiplexes the different flows of PPPoE traffic and transmits the multiplexed PPPoE traffic, i.e., the interface functions as a second port and a second network element (an access node AN 13 in FIG. 1) receives the multiplexed PPPoE traffic to terminate each of the different flows of PPPoE traffic.

Regarding claim 6, refer to the discussion for claims 2-5. Miki further discloses that a plurality of access nodes (AN11 and AN12 in FIG. 1) are a set of service providers points of presence (PoPs) and a PoP Major and the access node (AN 13 in FIG1) is an aggregator as recited in claim (col. 6, lines 13-58).

Regarding claim 7, refer to the discussion for claim 1.

However, Miki does not explicitly teach that the method is implemented in computer program (software). It would have been obvious to one having ordinary skill in the art to provide software to execute a method to take advantage of using the software, i.e., programmable.

Regarding claim 9, refer to the discussion for claim 2 and 8. Miki further discloses that the converting is performed by matching an entry in a data structure (a table in FIG. 3) that provide a PPoE session identifier for each PPP PDU to be converted (col. 8, lines 10-35).

Regarding claims 10, 15, 19, 27, 31, 36, and 45, refer to the discussion for claim 9. A proxy module in the claim is equivalent to the access node (FIG. 2).

Regarding claim 11, 16, 20, 28, 32, 37, and 46, Miki further discloses that the data structure is modified to indicate that a subscriber side flow is active once a PPP session is opened (col. 6, line 59-col. 7, line 10 and col. 8, lines 10-35).

Regarding claim 12, Miki further discloses an access node (AN 13 in FIG1) is an aggregator as recited in claim (col. 6, lines 13-58).

Regarding claim 13, Mike further discloses that the access node is agnostic of the encapsulation of the PPP PDUs to be converted (col. 6, lines 13-58).

Regarding claims 14, 18, 26, 35, and 44, Miki further discloses that the converting each PDU is performed by matching an entry in a data structure (a table in FIG. 3) within the network element having a relationship between the session identifier and the first flow (col. 8, lines 10-35).

Regarding claims 17, 21, 29, 33, 39, and 42, Mike further discloses that the access node is agnostic of the encapsulation of the PPP PDUs to be converted (col. 6, lines 13-58).

Regarding claim 34, refer to the discussion for claim 8.

Regarding claims 38 and 47, refer to the discussion for claim 12.

Regarding claims 48 and 49, refer to the discussion claims 2 and 9.

Regarding claim 50, refer to the discussion for claim 13.

Regarding claim 51, refer to the discussion for claim 10.

Regarding claim 52, refer to the discussion for claim 11.

Regarding claims 53 and 57, refer to the discussion for claim 2, however, Miki does not teach a demux to separate the IP packets and PPPoX data packets and a

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virtual router for transmitting the IP packets. It would have been obvious to one having ordinary skill in the art to provide a demux and a virtual router to transmit the IP packets to a different network from a network for PPP.

Regarding claim 54, refer to the discussion for claim 9.

Regarding claim 55, refer to the discussion for claim 10.

Regarding claim 56, refer to the discussion for claim 11.

Regarding claim 58, refer to the discussion for claim 17.

#### ***Allowable Subject Matter***

5. Claims 4 and 22-25 allowed.

#### ***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SOON-DONG D. HYUN whose telephone number is (571)272-3121. The examiner can normally be reached on M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
S. Hyun  
2/21/2008

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER 2/25/08